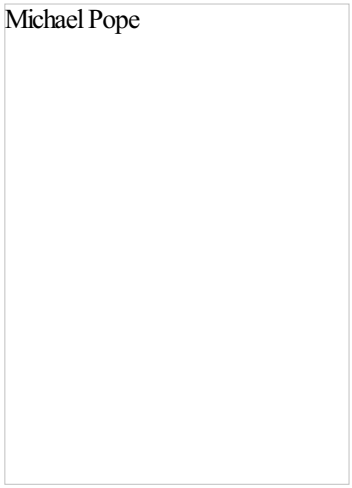
INL engineer, scientist receives World Nuclear University fellowship

By Kimberly Hirai, University of Idaho, Idaho National Laboratory Nuclear Science and Technology communications summer intern

Michael Pope



Pope obtained a doctorate in nuclear science at MIT in 2006.

Idaho National Laboratory scientist and engineer Michael Pope said he had never explored nuclear subjects before college. But a speech by Dr. Alan Waltar changed all of that. Waltar was the nuclear engineering department head for the Dwight Look College of Engineering at Texas A&M University then. He had previously worked at the Hanford Engineering Development Laboratory for several years, served as the American Nuclear Society's president in 1994, and led Eagle Alliance, an association which brought individuals from the industry, university, laboratory and medical fields to strengthen the nuclear science and technology industry.

In his speech, Pope said Waltar painted a picture of an aging nuclear engineering workforce and a younger generation lacking the number of future engineers needed to replace it.

Pope changed his chemical engineering major to study nuclear engineering.

"It seemed like a pretty exciting field-something that I think is important," said Pope. "So I decided to get involved in it and I've never left it."

But few young nuclear engineers get the chance to collaborate with individuals internationally in the nuclear realm. Pope will get that chance. This summer, he will meet 109 other young students and professionals much like himself as a representative of Idaho National Laboratory (INL) at the third annual World Nuclear University Summer Institute in Daejeon, Korea.

The WNU-SI is a global collaboration among leading entities with an interest in improving education and leadership in the nuclear field. "The point is to open the participants' minds to how international the nuclear industry is," said Ken Marsden.

Marsden performs experiments involving electrochemical separations and fuel fabrication in INL's Pyroprocessing Technology department. A scientist and engineer, he represented INL at the WNU-SI last year. Marsden studied broad nuclear issues with participants in Stockholm, Sweden. He said participants also toured facilities in France while there.

This year's program was organized by the institute and the Korea Atomic Energy Research Institute (KAERI) along with the Korea Hydro & Nuclear Power Co. Ltd (KHNP) and Korea Nuclear Society (KNS).

Participants represent more than 37 countries and will participate in a six-week course running from July 14 to Aug. 24. Pope was awarded one of 11 WNU-SI fellowships given to individuals from the United States, and he said he plans to take advantage of the opportunity.

"Early on in a career, you don't have those contacts, and this is a way for young people that may be in the business for a long time to build up a network of contacts that you would usually only have many years into your career," said Pope.

A nuclear engineer and scientist in Advanced Nuclear Energy Systems, Pope was selected through a rigorous application process. He is involved with safety analysis of sodium-cooled fast reactor design at INL.

The educational experience consists of presentations by internationally recognized speakers, technical tours of Korean nuclear facilities, team building exercises to foster relationships and cultural activities. Fellows work in small groups over the course of the institute on a nuclear issue they wish to address. They then present their findings during a one-day session at the end of the program. Fellows also spend time discussing lectures and related topics in a group setting.

In the past, participants have addressed such issues as nuclear safeguards and encouraging the use of nuclear technology in developing countries. This year, lectures will cover nonproliferation, new hydrogen and space technologies, fusion reactors, public communication and other subjects. Pope sees it as a way to develop relationships while learning about international progress in the nuclear field.

"We kind of get isolated in this business sometimes and it's important to always know what other people are doing so you know what the state of the art is, you know what's been tried before," said Pope. "And I think things like this might be important to rid ourselves of barriers that keep us from knowing what's going on around the world."

Marsden said work on reactor pressure vessels in the United States and France was just one example he learned about while at the institute last year. Teams from France discovered a problem with reactor pressure vessels five years prior to the issue's appearance in the U.S.

"The industry in the U.S. was completely asleep and totally caught by surprise when the plants started having the same problem," said Marsden.

Marsden said awareness of other country's experiences might have helped them learn sooner about the corrosion that could occur at the top head of the vessel. The WNU-SI was designed in June 2004 in a meeting hosted by the International Atomic Energy Agency (IAEA) in Vienna. The institute's founding organizations continue to support the program and play a part in the summer institute's design. They include the IAEA, the Nuclear Energy Agency of the OECD (NEA), the World Association of Nuclear Operators (WANO), and the World Nuclear Association (WNA).

Pope came to INL in September 2006. He received a bachelor's degree in nuclear engineering from Texas A&M University in 2002. He went on to complete a master's degree in the same field of study at MIT in 2004 and continued at the school to obtain a doctorate in nuclear science and engineering two years later.

Visit the World Nuclear University Web site.

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